

AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended): A method of producing a plant having an increased level of resistance to a disease-causing pathogen, said method comprising the steps of:

a) introducing a transgene that overexpresses a nucleic acid molecule encoding a calcium dependent protein kinase (CDPK) polypeptide into a plant cell that is susceptible to a disease-causing pathogen, wherein said nucleic acid molecule is selected from the group consisting of

(i) a nucleic acid molecule encoding a polypeptide of SEQ ID NO:1 and

(ii) a nucleic acid molecule encoding a polypeptide having at least 80% 95% identity to the polypeptide of SEQ ID NO:1; and

b) regenerating a plant from said plant cell, wherein said CDPK polypeptide is expressed in said plant, increasing the level of resistance to said disease-causing pathogen as compared to a naturally-occurring plant.

Claim 2 (original): The method of claim 1, wherein said plant cell is a dicotyledonous plant cell.

Claim 3 (original): The method of claim 2, wherein said dicotyledonous plant cell is a cruciferous plant cell.

Claim 4 (original): The method of claim 1, wherein said plant cell is a monocotyledonous plant cell.

Claim 5 (previously presented): The method of claim 1, wherein said disease-causing pathogen is a plant pathogen.

Claim 6 (previously presented): The method of claim 1, wherein said plant cell is a transgenic plant cell.

Claim 7 (original): The method of claim 6, wherein said transgenic plant cell comprises a transgene that expresses a nucleic acid molecule encoding a CDPK polypeptide.

Claim 8 (previously presented): The method of claim 7, wherein said CDPK polypeptide is the polypeptide of SEQ ID NO:1.

Claim 9 (withdrawn): The method of claim 7, wherein said CDPK polypeptide is CDPK4.

Claim 10 (previously presented): The method of claim 7, wherein said CDPK polypeptide consists essentially of the CDPK protein kinase domain.

Claim 11 (original): The method of claim 7, wherein said CDPK polypeptide is a

constitutively-active CDPK polypeptide.

Claim 12 (original): The method of claim 7, wherein said transgene ectopically expresses said nucleic acid molecule encoding said CDPK polypeptide.

Claim 13 (original): The method of claim 7, wherein the transgene comprises an inducible promoter.

Claim 14 (original): The method of claim 7, wherein the transgene comprises a constitutive promoter.

Claim 15 (original): The method of claim 7, wherein the transgene comprises a tissue-specific promoter.

Claim 16 (original): The method of claim 7, wherein said nucleic acid molecule is either derived from *Arabidopsis* or is an ortholog thereof.

Claim 17 (withdrawn): A method of conferring pathogen resistance on a plant, the method comprising the steps of:

- a) crossing a pathogen resistant plant prepared by the method of claim 1 with a plant having susceptibility to a pathogen;
- b) recovering reproductive material from the progeny of the cross; and

c) growing pathogen resistant plants from the reproductive material.

Claim 18 (withdrawn): The method of claim 17, said method further comprising repetitively crossing the pathogen resistant progeny with disease susceptible plants, and selecting for expression of pathogen resistance.

Claim 19 (withdrawn): A method for breeding pathogen resistance into plants, said method comprising:

- a) selecting a plant that expresses a nucleic acid molecule encoding a CDPK polypeptide; and
- b) selecting pathogen resistant progeny.

Claim 20 (withdrawn): The method of claim 19, wherein said plant is a transgenic plant.

Claim 21 (withdrawn): The method of claim 20, wherein said transgenic plant comprises a transgene that expresses a nucleic acid molecule encoding a CDPK polypeptide.

Claim 22 (withdrawn): The method of claim 21, wherein said transgene ectopically expresses a nucleic acid molecule encoding said CDPK polypeptide.

Claim 23 (withdrawn): The method of claim 21, wherein said CDPK polypeptide is CDPK2.

Claim 24 (withdrawn): The method of claim 21, wherein said CDPK polypeptide is CDPK4.

Claim 25 (withdrawn): The method of claim 21, wherein the CDPK polypeptide consists essentially of the protein kinase domain.

Claim 26 (withdrawn): The method of claim 21, wherein the CDPK polypeptide is a constitutively-active CDPK polypeptide.

Claim 27 (withdrawn): A non-naturally occurring plant that expresses a nucleic acid molecule encoding a CDPK2 polypeptide.

Claim 28 (withdrawn): The non-naturally occurring plant of claim 27, said plant comprising a transgene that includes a nucleic acid molecule encoding a CDPK2 polypeptide, expression of said nucleic acid molecule being under the control of an expression control region that is functional in a plant cell.

Claim 29 (withdrawn): The non-naturally occurring plant of claim 28, wherein the nucleic acid molecule encoding said CDPK2 polypeptide is derived from a plant.

Claim 30 (withdrawn): The non-naturally occurring plant of claim 28, wherein the CDPK2 polypeptide consists essentially of the protein kinase domain.

Claim 31 (withdrawn): The non-naturally occurring plant of claim 28, wherein said transgene that encodes said CDPK2 polypeptide is either derived from *Arabidopsis* or is an ortholog thereof.

Claim 32 (withdrawn): The non-naturally occurring plant of claim 27, wherein said plant is a dicotyledonous plant

Claim 33 (withdrawn): The non-naturally occurring plant of claim 27, wherein said plant is a monocotyledonous plant.

Claim 34 (withdrawn): A seed from the non-naturally occurring plant of claim 27.

Claim 35 (withdrawn): A cell from the non-naturally plant of claim 27.

Claim 36 (withdrawn): A non-naturally occurring plant that expresses a nucleic acid molecule encoding a CDPK4 polypeptide.

Claim 37 (withdrawn): The non-naturally occurring plant of claim 36, said plant comprising a transgene that includes a nucleic acid molecule encoding a CDPK4

polypeptide, expression of said nucleic acid molecule being under the control of an expression control region that is functional in a plant cell.

Claim 38 (withdrawn): The non-naturally occurring plant of claim 36, wherein the nucleic acid molecule encoding said CDPK4 polypeptide is derived from a plant.

Claim 39 (withdrawn): The non-naturally occurring plant of claim 36, wherein the CDPK4 polypeptide consists essentially of the protein kinase domain.

Claim 40 (withdrawn): The non-naturally occurring plant of claim 36, wherein the CDPK4 polypeptide is a constitutively-active CDPK4 polypeptide.

Claim 41 (withdrawn): The non-naturally occurring plant of claim 36, wherein said transgene that encodes said CDPK4 polypeptide is either derived from *Arabidopsis* or is an ortholog thereof.

Claim 42 (withdrawn): The non-naturally occurring plant of claim 36, wherein said plant is a dicot.

Claim 43 (withdrawn): The non-naturally occurring plant of claim 36, wherein said plant is a monocot.

Claim 44 (withdrawn): A seed from the non-naturally occurring plant of claim 36.

Claim 45 (withdrawn): A cell from the non-naturally occurring plant of claim 36.

Claim 46 (withdrawn): A vector comprising an expression control region functional in plant cells operably linked to a nucleic acid molecule encoding a CDPK4 polypeptide.

Claim 47 (withdrawn): A vector of claim 46 wherein the CDPK4 polypeptide consists essentially of the protein kinase domain.

Claim 48 (withdrawn): The vector of claim 46 wherein the nucleic acid molecule encoding said CDPK4 polypeptide or protein kinase domain is derived from a plant.

Claim 49 (withdrawn): The vector of claim 46, wherein nucleic acid molecule encoding said CDPK4 polypeptide is a constitutively-active CDPK4 polypeptide.

Claim 50 (withdrawn): The vector of claim 46 wherein said nucleic acid molecule that encodes said CDPK4 polypeptide is either derived from *Arabidopsis* or is an ortholog thereof.

Claim 51 (withdrawn): A cell comprising the vector of claim 46.



Claim 52 (withdrawn): The cell of claim 51, wherein said cell is a plant cell.

Claim 53 (withdrawn): The cell of claim 51, wherein said cell is a prokaryotic cell.

Claim 54 (currently amended): The method of claim 1, wherein said nucleic acid molecule is a nucleic acid molecule encoding a polypeptide having at least ~~80%~~ 95% identity to the polypeptide of SEQ ID NO:1.

Claim 55 (previously presented): The method of claim 54, wherein said nucleic acid molecule encodes the polypeptide of SEQ ID NO:1.

Claim 56 (currently amended): The method of claim 7, wherein said nucleic acid molecule is a nucleic acid molecule encoding a polypeptide having at least ~~80%~~ 95% identity to the polypeptide of SEQ ID NO:1.

Claim 57 (previously presented): The method of claim 56, wherein said nucleic acid molecule encodes the polypeptide of SEQ ID NO:1.